

**Notice of Allowability**

Application No.

10/695,731

Examiner

Toan Le

Applicant(s)

HIRAMOTO ET AL.

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-25.
3. ☒ The drawings filed on 24 October 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

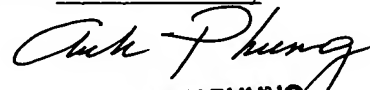
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 1/02/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other East search history.

  
**ANH PHUNG**  
**PRIMARY EXAMINER**

Art Unit: 2824

***Examiner's amendment***

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

In claim 22, line 5: after "**along**" delete -- **the** --.

The examiner's amendment has been made in order to place the application in a condition for allowance.

**DETAILED ACTION**

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

3. This office acknowledge receipt of the following items from the Applicant:  
Information Disclosure Statement (IDS) filed on January 02, 2004.
4. Information disclosed and list on PTO 1449 was considered.

Art Unit: 2824

***Allowable Subject Matter***

5. Claims 1- 25 are allowed over the art of record.
6. The following is an examiner's statement of reasons for allowance: There is no suggestion or teaching in the art of record to provide magnetic memory device and a method for driving a magnetic memory comprising two or more memory layers and two or more tunnel layers that are stacked in a thickness direction of the layers, wherein a resistance change caused by magnetization reversal in a group of first layers differs from a resistance change caused by magnetization reversal in a group of second layers, in combination with the remaining claimed limitations as recited in the independent claims 1 and 15, nor is there suggestion or teaching magnetization reversal of a magnetic filed that is produced by a plurality of currents including a current flowing through the memory layer in its thickness direction as recited in the independent claim 21.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2824


Hirai et al. (U.S. 6,587,370), Saito et al. (U.S. 6,522,573), Schwarzl et al. (U.S. 6,351,408) disclose a magnetic memory similar to that of the applicant, but do not teach a resistance change caused by magnetization reversal in a group of first layers differs from a resistance change caused by magnetization reversal in a group of second layers and magnetization reversal of a magnetic filed that is produced by a plurality of currents including a current flowing through the memory layer in its thickness direction.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Le whose telephone number is (571) 272-1872. The examiner can normally be reached on M-F (8.00AM - 5.30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL  
May 01, 2005

  
**ANH PHUNG**  
**PRIMARY EXAMINER**